

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-65. (Cancelled).

66. (Previously Presented) An apparatus for the conduct of electrochemiluminescence measurements comprising:

a cell having at least one cell wall which includes a transparent portion adjacent to an ECL chamber defined within said cell;

a working electrode abutting said ECL chamber and in optical registration with said transparent portion;

a counter electrode abutting said ECL chamber; and

a heater, thermally coupled to said working electrode, for adjusting a temperature of said working electrode.

67. (Previously Presented) The apparatus according to claim 66 wherein said heater comprises a temperature sensor thermally coupled to said working electrode.

68. (Previously Presented) The apparatus according to claim 66 wherein said heater transfers heat energy from said working electrode to lower said temperature.

69. (Previously Presented) The apparatus according to claim 66 wherein said heater is operative to maintain said temperature substantially constant during a predetermined time interval.

70. (Previously Presented) The apparatus according to claim 66 wherein said heater is operative to vary said temperature between predefined temperatures at predefined time intervals.

71. (Previously Presented) The apparatus according to claim 66 wherein said heater is thermally coupled to a fluid in said ECL chamber and adjusts a temperature of said fluid.

72. (New) An apparatus for the conduct of electrochemiluminescence measurements comprising:

a cell having at least one cell wall which includes a transparent portion adjacent to an ECL chamber defined within said cell;

a working electrode abutting said ECL chamber and in optical registration with said transparent portion;

a counter electrode abutting said ECL chamber; and

a heater, thermally coupled to at least one surface of said ECL chamber.

73. (New) The apparatus according to claim 72 wherein said heater is chosen from a Peltier device, a resistive heater, a sonic heater, and an infrared heater.

74. (New) The apparatus according to claim 72 wherein the heater comprises heating elements wherein said elements are less than 0.02 inches thick.

75. (New) The apparatus according to claim 72 further comprising a temperature sensor.

76. (New) The apparatus according to claim 75 wherein the temperature sensor is chosen from a resistance temperature device (RTD), a thermistor, a thermocouple, a thermometer, and an infrared detector.

77. (New) The apparatus according to claim 75 wherein the temperature sensor is an integral component of the heater.

78. (New) The apparatus according to claim 75 further comprising a temperature controller that operates at least some of the time in closed-loop mode.

79. (New) The apparatus according to claim 72 wherein the heater is not operative during an ECL induction phase.

80. (New) The apparatus according to claim 72 wherein the heater is operative during a pre-heating stage prior to an ECL induction phase, wherein the preheating stage lasts less than 3 seconds and wherein there is no flow of fluid through the cell

during the preheating stage.

81. (New) The apparatus according to claim 72 wherein said heater can transfer heat energy from said working electrode to lower said temperature and can transfer heat to said working electrode to raise said temperature.

82. (New) The apparatus according to claim 72 wherein said heater is operative to maintain a temperature of said working electrode substantially constant during a predetermined time interval.

83. (New) The apparatus according to claim 72 wherein said heater is operative to vary a temperature of said working electrode between predefined temperatures at predefined time intervals.

84. (New) The apparatus according to claim 72 wherein said heater is thermally coupled to a fluid in said ECL chamber and adjusts a temperature of said fluid.

85. (New) The apparatus according to claim 72 wherein the heater is chosen from a Peltier device, a resistive heater, and a sonic heater, said apparatus further comprising a temperature sensor chosen from a resistance temperature device (RTD), a thermistor, a thermacouple, and a thermometer.

86. (New) The apparatus according to claim 85 further comprising a

photodetector in optical registration with said transparent portion.

87. (New) The apparatus according to claim 86 wherein the heater is thermally coupled to said working electrode.

88. (New) The apparatus according to claim 87, further comprising a magnetic field generating device, operable to apply a magnetic field to said working electrode.

89. (New) The apparatus according to claim 88, further comprising an electrically-shielded window adjacent to and in optical registration with said transparent portion.

90. (New) The apparatus according to claim 89 wherein said photodetector is a photodiode.

91. (New) The apparatus according to claim 72, further comprising a light source, optically coupled to said ECL chamber, for providing light to said ECL chamber.

92. (New) The apparatus according to claim 90, further comprising a light source, optically coupled to said ECL chamber, for providing light to said ECL chamber.

93. (New) The apparatus according to claim 86 wherein the photodetector inherently avoids the detection of infrared radiation.

94. (New) The apparatus according to claim 86 further comprising an optical filter in optical registration with said transparent portion having a first transmittance of 600 nm light and a second transmittance of 800 nm light, wherein said first transmittance is at least four times greater than said second transmittance.